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THE JOURNAL
OF
POLITICAL ECONOMY

—
JUNE—1893.
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HISTORICAL SKETCH OF THE DEVELOPMENT OF
SCANDINAVIAN SHIPPING.

From ancient times the Scandinavian peoples have been, in a prominent degree, engaged in shipping. In that way they introduced themselves for the first time into the history of Western Europe, in a rather violent manner by the viking expeditions; while the Norwegians, or Norwegian colonists, discovered Iceland, Greenland, and even the North American continent nearly five centuries before the discoveries of Columbus. And in our day the Scandinavian flags, covering a seafaring trade far beyond what might be expected from the small population of these countries, wave in every part of the world.

The first viking expedition on record occurred in the year 93, small numbers of those seafarers arriving from the west of Norway at northern parts of the British Isles. Some authors set the first expedition in the year 787, when three vessels, probably Danish, are said to have made an assault upon the Dorset coast in the south of England; but this seems to have been at a later date.¹

During about two hundred years crowds of vikings harried the shores of western Europe, particularly the British Isles and France. From Denmark and the southern parts of Norway they generally proceeded along the coasts of Germany and through the Channel, while the expeditions from western Norway sailed

¹G. STORM, *Kritiske Bidrag til Vikingetidens Historie*. Kristiania, 1878.

to Scotland and round its north coast to the west of England and to Ireland. The Swedish expeditions, on the other hand, were for the most part confined to the Baltic. Apart from these commonly frequented regions, the Scandinavian seafarers of those ages sometimes also sailed down the Mediterranean, even as far as Constantinople. The Swedes, too, came to that great metropolis of the Byzantine empire, but by quite another way, namely from Russia down the river Dnieper and the Black Sea. They even sailed down the Volga into the Caspian Sea, where they plundered the Persian coasts (Aserbeidjan). In a northwestern direction the Norwegians reached, as we have already mentioned, the coasts of North America.

The introduction of Christianity (about 1000 A. D.) gradually put an end to the viking expeditions in their old form. But in each of the three Scandinavian kingdoms the naval force continued to be the most essential part of their military strength. Thus the Norwegian king, Haakon Haakonsen, who lived in the first half of the thirteenth century, possessed a strong royal fleet consisting of 40–50 large vessels besides some hundreds of *leding* vessels to be levied in case of war. The royal fleet was kept up under his successors until the beginning of the fourteenth century, but after the peace of Copenhagen, 1309, which put an end to a long period of war between Norway and Denmark, it was neglected and fell into decay.

The formation of the Hanseatic League (1241), led to commercial and political relations, which in course of time exercised a pernicious influence on the trade and shipping, not only of Norway, but also of the two other Scandinavian kingdoms.

Several circumstances contributed to make the commercial supremacy of the Hansa felt most severely in Norway. The country was exhausted in consequence of the constant civil and other wars. The nobility was weakened. There was no class of merchants; the small towns which existed, besides Bergen, being chiefly inhabited by poor artisans, fishermen, and the like. Thus there was nothing to oppose the capitalistic influence of the wealthy and extremely well organized Hansa. This disad-

vantageous position was, in the middle of the fourteenth century, greatly aggravated by the frightful pestilence called the "black death," which perhaps in no country did more ravage than in Norway; where it is estimated according to the best sources about one-third of the inhabitants were swept away¹, while contemporary chronologists put the loss at two-thirds. At all events, this was a most formidable blow for very thinly populated Norway, which for a long time was entirely paralyzed by its effects. No wonder, that under such circumstances the powerful Hanseatic League could establish a supremacy, or rather a monopoly, over the trade and shipping of Norway, and that they obtained, partly by negotiating, partly by usurping, privileges which rendered it still more difficult for the citizens to take an active part in the commerce. In the principal town, Bergen, the Hanseatic traders founded a mighty colony, a state in the state, which entirely controlled the trade.

In the course of the 16th century, and particularly after 1550, the Norwegians, however, began to emancipate themselves from this commercial yoke. In the meantime another foreign nation, the Hollanders, had commenced trading with Norway—a commerce which can be traced back to the middle of the fifteenth century—and they contrived, after some lapse of time, to supersede the Hanseatic traders. Their commerce was, however, of a different and not so exclusive a character. The Hollanders brought about an increasing and very important shipment of timber, chiefly from the southern part of Norway, the amount of which has been computed at only 2428 "lasts"² in 1528, but at 14,385 lasts about 1560, and 44,892 lasts in the first decades of the seventeenth century.³ Both the rural districts and the towns derived advantage from this commerce and many of our towns date their first beginnings as loading places for timber from that period.

¹ F. E. SARS, "Folkemængdens Bevægelse i Norge, 13.-17. Aarhundrede." *Historisk Tidskrift.* ii. p. 281 *et seq.*

² A measure corresponding to something more than 2 register tons.

³ L. J. VOGT, "Om Norges Udførsel af Trælast i ældre Tider." *Norsk Historisk Tidskrift.* ii. 5. p. 337.

In the seventeenth century the export of timber from Norway was very large. By far the greater part of it went to Holland, which in those times, not only consumed large quantities for construction of buildings in its own prosperous towns, but also formed a staple-market, where the foreign timber was sawn up into boards and deals for re-exportation to other countries, such as France, Spain, and the like. A good deal of timber was also exported from Norway to England direct, and in the years subsequent to the great fire of London in 1666 it was a saying that "the Norwegians warmed themselves very well at that fire."

In the earlier period of the Dutch timber trade, the Hollanders fetched the timber in their own ships, trading with the peasants on very cheap terms and leaving scarcely any profit, either for the merchants or for the shipping trade of Norway. This state of things however, gradually changed. Legislative measures, combined with the natural development of the trade—particularly owing to the thinning of the forests situated along the coasts, and to the necessity of floating the timber from the interior—contributed more and more to draw the export to the towns, particularly since 1662, and at the same time the Norwegians began to take a more active part in the shipping of the timber.

The celebrated English Navigation act of Cromwell (1651) was beneficial to the Norwegian shipping, by driving the Hollanders out of the carrying trade between Norway and Great Britain.

In those days when the mercantile marine of Holland stood at the height of its glory, surpassing by far even the tonnage of all other European nations together, Great Britain included, their vessels were to a large extent manned by Scandinavian sailors, particularly Norwegians, with whom the Hollanders had very close connections. Yet many Norwegians were also hired as sailors on British ships.¹

The growth of Norway's own mercantile marine during the seventeenth and eighteenth centuries may be illustrated by some statistical facts.

¹ L. DAA, *Nordmænds Udvandringer til Holland og England.*

According to a report drawn up by the Swedish ambassador in Copenhagen, Mr. Durell, Norway possessed in 1650 only 50 vessels measuring above 88 lasts (*i.e.* about 200 tons). At the end of the same century this number seems to have nearly doubled itself. In the subsequent twenty years the commercial marine suffered heavy losses owing to warfare, a large part of the vessels being captured by the Swedes. After the re-establishment of peace in 1720 there was a slow progress, and the tonnage had in 1750 perhaps again advanced to the same level as in 1700. An account for the year 1748 gives 94 vessels of 100 lasts or more, the total number of smaller or larger vessels being 568¹ measuring 25,000 to 26,000 lasts or about 60,000 tons.

This number does not seem to have undergone any material change during the next thirty years. There exist records from 1767, 1777 and 1778, which vary from 594 to 519 vessels and 25,394 to 24,704 lasts. But from that time there was a large increase, the last quarter of the eighteenth century being a very prosperous period for the trade and shipping of Norway. During the American war of Independence and the wars succeeding the French revolution, the neutral vessels derived great advantage from the high rate of freights prevailing at the time. Commerce and shipping flourished and the tonnage had already in 1792 increased to 45,511 lasts and in 1806 even to 74,824 lasts or nearly 180,000 register tons. It is true, that this large increase has been partially attributed to the circumstance, that some foreign vessels were registered in Norway for obtaining the advantage to be derived by sailing under a neutral flag; but even if we admit that this may have had some little influence on the figures, there can be no doubt but that the chief part of the great progress, which appears from these statistics, was real.

This period, which is also characterised by important liberal reforms in the commercial policy, was the most prosperous which Norway had hitherto had. The trade increased and assumed more and more an active character, while even so late as 1770 the export from Drammen, then the largest shipping place for

¹ A. SCHWEIGAARD, *Norges Statistik.* (Kristiania, 1840.) p. 127-129.

timber, was chiefly carried on in Dutch vessels. The progress culminated in the years 1804-1806, when large fortunes were made in most of the Norwegian towns. But the great profits led, as is usually the case, to overspeculation and was suddenly turned into deep distress by the outbreak of war with England in 1807. The war lasted until 1814, mitigated in the years 1810-1812, to some extent, by the English license system, by which Norwegian vessels were permitted to carry cargoes into British ports. This licensed commerce brought, however, no lasting advantage, though Norwegian products, particularly timber, were sold at very high prices owing to the closing of the Baltic ports. Thus it is not surprising that the tonnage of the mercantile marine of Norway fell from 74,824 lasts in 1806 to 53,734 lasts in 1809; and it is rather astonishing that in 1814 it reached so much as 69,092 lasts (*i.e.* about 165,000 tons).

With the restoration of peace and the re-acquirement of the political independence of Norway, in 1814, begins a new era of the Norwegian shipping; but before proceeding to the consideration of the later development, I will now give a brief sketch of the history of the Swedish and Danish shipping in earlier times.

The seafaring trade of Sweden¹ was originally mostly confined to the Baltic; its present west coast belonged then partly to Denmark and partly to Norway, and there existed on that side only one Swedish port, "Lodöse" in the neighbourhood of the present city of Gothenburg. A very important seaport in the eleventh and following centuries was Wisby, on the Isle of Gotland, once the most celebrated seaport in the Baltic, with a very extensive trade and shipping, chiefly in Russian produce. The principal staple place for the Swedish products was Stockholm, the commerce of which was in the hands of Hanseatic traders. Yet the power of the Hanseatic League, of which Wisby formed a link, was not so overwhelming as in Norway. In order to emancipate the Swedish trade from the Hansa, king

¹ Amongst other sources I may here particularly quote SILLENS, *Svenska Handelns och Näringsgarnes Historie till år 1809.* (Stockholm, 1886.)

Gustaf Wasa (1523-1560) concluded an alliance with the Dutch, who, ever since the twelfth century, had carried on a very brisk trade in all the Baltic ports. The chief article of export was timber, while salt was a very prominent article of import into Sweden. As a curious incident from those times it may be mentioned that the Swedes, in the beginning of 1566, captured no less than two hundred salt laden vessels outside Falsterbo (in Skaane), although they were convoyed by 36 Danish vessels.¹ It is a well known fact, that the shipping trade of the middle ages, and even to the end of the eighteenth century, was chiefly carried on in fleets consisting of a large number of vessels.

The number of Dutch vessels sailing in the Baltic is given at 500 to 600 in the sixteenth century and at 1,000 in the beginning of the seventeenth, while in 1640 about 1,600 Dutch vessels passed the Sound.

The mercantile marine of Sweden is said to have consisted in 1559 of no more than 62 vessels measuring about 6,000 tons in all; and it had been still less in the preceding years.² During the next turbulent period the marine fell into such a state of decay, that, for instance, Stockholm, which owned 18 vessels in 1559, did not possess a single one in 1614. Under the reign of Gustavus Adolphus and probably during the greater part of the 17th century, the shipping trade of Sweden was on the increase notwithstanding the manifold hindrances laid by the Danes against Swedish vessels passing the Sound, and also by the Dutch, who with no less jealousy opposed the development of the Swedish shipping.

The influence of the Dutch, which also in Sweden had received a heavy blow by the English navigation law, was still prevalent in the Baltic during the first two decades of the 18th century; but from that time they were more and more surpassed by the English.

For the sake of promoting the trade and navigation of the Swedish capital, very heavy restrictions had been laid on the

¹ MÜLLER, *Sökrigshistorie.* (Kristiania, 1863.)

² AGARDH AND LJUNGBERG, *Statsökonomisk Statistik.* iv. p. 334.

ports situated at the Gulf of Bothnia, particularly since 1636. No foreign vessel was permitted to trade with any port north of Stockholm and Åbo, nor was it permitted those unhappy ports—in our time the seat of a most important commerce and navigation—themselves to possess any vessel trading with foreign countries. This unnatural restraint was abolished in 1765.¹

In the middle of the seventeenth century the Swedes made several endeavors to promote an oversea trade. Thus in 1631 a colony was formed in North America by Swedish settlers, who took possession of a tract of land situated on the Delaware river,² and in 1649 an African company was started intending to trade with the coast of Guinea. Both these attempts were, however, after the lapse of a few years, frustrated by attacks of the Dutch and the English, who, in the years 1650-1653 seized 23 Swedish vessels, seven of which belonged to the African company. In the next century there existed a Swedish East-Indian company, created in 1731 and lasting until 1813, but which seems never to have gained much importance. About the same was the case with the trade with the West Indies colony, St. Barthelemy, acquired by Sweden in connection with a commercial treaty with France in 1784.

The number of vessels belonging to Sweden in the years succeeding the death of Charles XII (1718) is variously indicated; but the most credible figure seems to be that of 209 vessels, of which only 19 were of 100 lasts or more.³ In 1724 a navigation law after the English model ("product-plakatet") was introduced, and it is said that the number of vessels increased very much in consequence, so that in 1727⁴ it already reached 480. The first reliable account of the number and tonnage of vessels seems, however, to be that of 1795, given in the official statistical tables. In that year the "stapelstäder" (*i. e.* privileged cities) possessed 721 vessels measuring 46,005 lasts or about 82,800 tons. The number of vessels seems, on the whole, to have been

¹ MAGNUS HÖYER, *Konungariket Sverige*. iii. pp. 84 and 89.

² AGARDH AND LJUNGBERG. iv. p. 320.

³ AGARDH AND LJUNGBERG. iv. p. 320.

⁴ *Ibid.*, p. 334.

increasing during the different vicissitudes of the eighteenth century. As with the Norwegian and the Danish shipping, the progress was probably greatest in the last quarter of the century, although Sweden perhaps did not derive quite so much advantage from the favorable conditions of that period as the two other Scandinavian countries. On the other hand, we find that the mercantile marine of Sweden continued to increase without any serious interruption until 1815, when the tonnage of the "stapelstäder" was as much as 95,600 tons, and the total tonnage, including other towns and shipowning places in the rural districts, probably exceeded 150,000 tons.

The shipping of *Denmark* seems to have been, in some periods of its ancient history, perhaps more prominent than either of the two sister kingdoms. At the time of Canute the Great (1015-1035) the Danish rule extended from England in the west even to the eastern part of Prussia, thus commanding both the North Sea and the Baltic, and in a similar way, although on a more limited scale, Waldemar the Great and his successors in the last part of the twelfth and in the first decades of the thirteenth century, ruled over great parts of the Baltic coasts of Germany and extended their sway as far as Esthland.

But at other periods Denmark exhibits the same sad spectacle of civil wars and ruinous decay as the two other Scandinavian kingdoms, particularly Norway, have done at times.

The commercial and political influence of the Hanseatic League was very great in the thirteenth and subsequent centuries. They were first attracted to Denmark by the rich herring fisheries on the coasts of Skaane, then a Danish province. As in Norway, the citizens in the towns of Denmark were during the middle ages quite unable to hold their own against the Germans. During the reign of Waldemar Atterdag, after the devastation by the pestilence, Denmark was several times engaged in bloody wars with the Hansa, and repeatedly invaded by the Germans. On one occasion 77 different declarations of war from as many Hanseatic cities were simultaneously delivered

to the king, who was at last compelled to leave his kingdom for four years and accept a humiliating peace (1369-1370), which afforded the Hanseatic traders great privileges. But the Danes emancipated themselves more and more, particularly after the beginning of the sixteenth century, when Copenhagen, founded under Waldemar the Great by the celebrated bishop Absalon, rose to be an important commercial and maritime city.

After the Hansa, the Dutch and the English gained influence over the Danish trade, without, however, creating such a supremacy as the Germans had attained.

The collecting, by the Danish kings, of the Sound dues, which were levied on all vessels making the passage to or from the Baltic, of course gave much displeasure to the foreign traders, and occasionally to serious conflicts. This duty, which is stated to have existed already in the thirteenth century, was, for fiscal reasons, considerably raised during the reign of Christian the Fourth (1588-1648), but he was compelled by the Swedes jointly with the Dutch to reduce it materially, with the result that the tax, instead of 528,000 rigs-dollars, did not produce more than 80,000. In the year 1500 it is said to have been no more than between 3,000 and 4,000 florins. With the growing Baltic trade the revenue was, however, in course of time very much increased, and amounted during the last four years previous to its abolition (in 1857) to about 3,864,000 kroner, or a little more than one million of dollars, yearly. The amount to be paid to Denmark for the repeal of this tax was stipulated at 35 millions of kroner, distributed proportionally among the different maritime powers.

After the example of England and Holland, the kings of Denmark made several endeavors to establish trade between Denmark and the East and the West Indies, the first attempts in this direction dating from 1618. Of these connections the trade with the Danish West Indian colonies, commencing in 1671 after the occupation of the island of St. Thomas and St. Jan, was at certain periods rather important, which may be seen from the fact that in 1761 the number of vessels cleared from

Denmark for the West Indies was no less than 52. During the years 1760-1770 there arrived at Copenhagen annually 20 to 30 vessels, measuring in the aggregate about 4,000 tons, charged with sugar from St. Croix. And in 1782 there were delivered 246 ships' passports for Danish and Norwegian vessels engaged in the West Indian trade.¹ After 1783, however, this trade declined and was in 1807 entirely stopped by the outbreak of the war with England.

During the first twenty years of the eighteenth century the mercantile marine of Denmark suffered severe losses by Swedish privateers, and it decreased during that period so much, that notwithstanding the progress which later took place, it hardly recovered its former height until the middle of the century. In 1748 Denmark proper possessed 793 vessels, measuring nearly 40,000 tons.² From that time begins an upward movement, which, in Denmark as in Norway, was most pronounced in the year 1776-1806, during which period the tonnage increased to nearly 90,000 tons including vessels under 20 tons.³ But the flourishing condition of those years was suddenly interrupted in 1807, when began a disastrous period of which we have already spoken in connection with the history of Norwegian shipping. The tonnage of the mercantile marine of Denmark at the end of 1814 may be estimated at between 70,000 and 80,000 tons.⁴

Taking a broad view over the whole period extending from the viking age to 1814, the comparison of the three Scandinavian nations in regard to the relative importance of their shipping gives the following results:—

In the earliest part of the period the Danes seem, as a rule, to have possessed a larger number of vessels and a greater maritime strength than either the Norwegians or the Swedes. It ought, however, to be remembered, that the territory of Den-

¹ FALBE HANSEN AND W. SCHARLING, *Danmarks Statistik*. iii.

² *Ibid.*

³ *Ibid.* p. 491; with addition of 20 per cent for difference in the admeasurement of tonnage. (See RUBIN, 1807-14, *Studier til Kjøbenhavns og Danmarks Historie*, 1892, p. 54.)

⁴ *Statistique internationale*. ii. tableaux p. 51, note 4.

mark was larger then than now. This superiority was, on the whole, maintained in most of the following centuries, except certain periods when the Norwegians were more prominent. From the thirteenth to the sixteenth century there was, as mentioned before, a general decline along the whole line. The rising export of timber helped forward the Norwegian shipping considerably, and in the latter part of the seventeenth century Norway possessed a somewhat larger tonnage than Denmark;¹ and either of these countries a much larger tonnage than Sweden, which in that respect seems to have been very inferior.²

In the middle of the eighteenth century the shipping of Norway was represented by nearly 60,000 tons, and that of Denmark by about 40,000 tons. The tonnage of Sweden had in the meantime considerably increased.

In 1815 Norway owned about 170,000 tons and Sweden somewhat more than 150,000, while the mercantile marine of Denmark probably did not reach more than half that, *i.e.*, 70,000 to 80,000 tons.

We will now consider the new era inaugurated in 1814, and for which we have the advantage of basing our studies upon reliable and, on the whole, complete statistical facts, the lack of which has been often felt in the preparation of the forgoing pages.

There are two events, which, more than anything else have exercised a marked influence on the development of shipping in our century, namely, first, the repeal of the English navigation laws, and, secondly, the introduction of steam vessels. The first event took place in the year 1849, the bill in question being approved by the queen on June 26th of that year. The application of steam in the seafaring trade has been introduced gradually, and it is therefore very difficult to indicate any definite year from

¹ HOLM, *Danmark-Norges indre Historie, 1660-1720.* (Kjöbenhavn, 1886.) pp. 460-461.

² See above, p. 335.

which the era of steam is to be reckoned. On the whole, however, it may be said, that steam vessels gained preponderance over sailing vessels after the year 1879 or thereabout, considering the effective carrying power of both in the navigation of all countries. Particularly for the trades in which the Scandinavian vessels were mostly employed, the last named year may be considered as the turning point, since which the competition of steam has been most seriously felt. We have therefore found it convenient to divide the interval between 1814 and the present time into three periods: the first from 1815 to 1850, the second from 1850 to 1880, and the third from 1880 to the present time.

During the first ten years after 1814 there was a general decline of the mercantile marine of most of the European countries. The amount of tonnage, which during the great French wars had been required for conveying merchandise under the vicissitudes of the war and the unsafe conditions of sea voyages in general, now proved, after the re-establishment of peace, too large in proportion to the demand; and this so much the more, as the commerce in those years was, almost universally, in a depressed state. A part of the tonnage had, besides, been employed in transport for war purposes.

The Norwegian shipping was likewise affected by this general decline and each year between 1816 and 1826 showed a general diminution of the tonnage from 71,092 lasts in the beginning of 1816 to 54,213 lasts at the end of 1825, corresponding to about 175,700 and 128,200 register tons¹ respectively, or a diminution of more than one fourth. In about the same proportion the mercantile marines of Sweden, Denmark and Prussia diminished in those years, while the tonnage of Great Britain did not decrease more than one-seventh and that of the United States was even a little larger in 1826 than 1816.

¹ If these figures are compared with those communicated by the author in *Statistique Internationale*, iii, p. 51, there will be found some discrepancies arising from the fact, that vessels built before 1819 had, so long as they existed, the benefit of a reduction of one-fifth in their tonnage, a circumstance which has been hitherto neglected in the above mentioned international statistics.

A special adverse circumstance for the Norwegian shipping in those years was the bad state of the timber trade. The exorbitant duties imposed in England in the years 1809–1813, on foreign timber¹ was felt very heavily, particularly in Norway, owing to the small dimensions of the timber, while the British colonies in America were greatly favored. The timber export from the southern ports of Norway to Great Britain fell from the rather high level it had reached in the year 1805, namely, 147,761 lasts, to 69,448 lasts in 1819, a reduction which of course made a great deal of tonnage superfluous. The timber export to Denmark also diminished considerably after 1814, while on the other hand the export to France increased.

The improvement in the timber trade and in the state of the freight market, which took place in 1823 and the two following very prosperous years, finally stopped the decrease of Norwegian shipping, and gave rise to an upward movement, which, beginning in 1826, has continued ever since up to the present time, in favorable as in unfavorable years, excepting only 1879 and 1885–1887.

In 1826 and succeeding years, several reciprocity treaties were concluded with foreign countries, whereby facilities were obtained for the trading of Norwegian vessels. Of great importance for the development of the Norwegian shipping was the placing of Norwegian and Swedish vessels, trading between Sweden and foreign countries, on the same footing.

During the first ten years of the union Norwegian vessels were not permitted to carry freights between Sweden and foreign countries, and a corresponding rule hindered Swedish vessels in Norwegian ports. But these restrictions were abolished by a provisory decree of May 24, 1825, confirmed by a law concerning the commerce and navigation between the two countries of August 4, 1827. The immediate result of this liberal policy was a great expansion of the Norwegian shipping

¹ The duty was, in the case of deals 3 inches thick and 16 to 21 feet long, raised from 4 to 22 pounds sterling per 120 pieces, in other cases, if not so much, yet very greatly.

in the Swedish ports, which rose from 9,000 lasts in 1823 to 24,700 lasts in 1825, while the corresponding figure for 1819 was as low as 4,300 lasts. The English navigation laws and similar laws in other countries made no distinction between Swedish and Norwegian vessels, and both were thus permitted to carry goods from either of the two countries to foreign countries.

Although Swedish vessels began to take part in the trade between Norway and some of the foreign countries, for instance in the timber export to Denmark and in homeward freights with corn and with salt, it was the Norwegians, who derived the greatest advantage, as they were able to sail with profit on cheaper terms than the Swedes, a circumstance which made their competition very much felt, particularly in the timber trade between Sweden and western Europe.

The first Norwegian vessels, which opened this trade, went to Gothenburg, the principal seaport on the west coast of Sweden. Later, some pioneers sailed to the Bothnian ports, which have since grown up to be most important places for the timber export from Sweden. The manner in which the Norwegian vessels generally proceeded in this trade was, to make first a voyage from Norway to England or Holland, etc., from thence sail in ballast (or occasionally with coal) to the Baltic, and then make two voyages between the Bothnian ports and western Europe, and finally return in ballast or with a cargo of coal to Norway. Compared with the Swedish ports on the Baltic, the Norwegian ports offered the great advantage that they were open for navigation even in March, sometimes even earlier, while the Bothnian ports generally were shut up by the ice until the middle of May. Thus the Norwegian vessels could make one voyage from Norway to western Europe and back again, before the vessels belonging to the Bothnian ports could begin the navigation of the year. (In our times the steam boats break up the ice at an earlier date).

The following statistics show the development of the proportions in which Norwegian, Swedish and other foreign vessels took part in the navigation of Norway and Sweden from 1827 to 1849.

I. TONNAGE IN NORWEGIAN COMMERCIAL LASTS¹ OF VESSELS
ENTERED INTO NORWAY.

	Norwegian.	Swedish.	Other Foreign.	Total.
1827	120,734		52,870 ²	173,604
1840	198,732	16,965	68,847	284,544
1849	224,665	11,163	61,181	297,009

2. TONNAGE IN SWEDISH LASTS; OF VESSELS ENTERED INTO SWEDEN.

	Swedish.	Norwegian.	Other Foreign.	Total.
1827	82,168	17,700	62,080	161,948
1840	98,715	50,175	38,902	187,792
1849	111,233	82,581	51,610	245,424

Thus while maintaining a high proportion in the shipping trade of Norway, ranging from 70 per cent. in 1827 to 75 per cent. in 1849, the percentage of the Norwegian vessels in the shipping trade of Sweden rose from 11 per cent. in 1827 to 34 per cent. in 1849; in 1819 it was only 4 per cent. The proportion of the Swedish vessels was from 1823 to 1849 about 45 per cent. in Sweden and only 3 per cent. in Norway, showing no material change during that period. The percentage of foreign ships, including Swedish, fell in Norway from 30 per cent. in 1827 to 25 per cent. in 1849; while in Sweden that of the foreign ships, except Norwegian, fell from 39 to 21 per cent.

It was, however, not only in the navigation of Norway and Sweden that the Norwegian shipping during that period worked itself up. The expansive tendency, which has since been so conspicuous in the Norwegian shipping, already proved then rather strong and even more vigorous outside than in Sweden. Thus, whereas in 1837, the Norwegian carrying trade amounted to 33,407 commercial lasts from Sweden, and 16,572 commercial lasts from other foreign countries, the corresponding figures for the year 1849 were 58,944 and 67,405 lasts respectively. That is to say, the Norwegian carrying trade nearly doubled itself in the Swedish ports, but more than quadrupled itself in the other foreign ports. The countries, which next after Sweden were of

¹ The Norwegian last was equal to about 2.1 register tons, but it was 2.6 register tons for Norwegian vessels built before 1819. The old Swedish last was equal to 1.8 register tons.

² The Swedish vessels were not stated separately for that year; but in 1826 there arrived in Norwegian ports only 151 Swedish vessels measuring 3,167 commercial lasts.

greatest importance for this trade, were Russia (in 1849, 22,000 lasts) and England (18,400 lasts); but there were also many Norwegian vessels freighted from the Mediterranean, and some from the United States and other American countries.

The tonnage of the mercantile marine of Norway at the beginning of 1831, is in the international shipping statistics¹ stated at 134,057 tons, but with the addition of all tonnage which ought to be included for the comparison with the figures for 1850 and later years,² the total will be about 165,000 tons. The corresponding tonnage was in 1850 288,600 tons, showing a progress, during the years 1831–1850, of 75 per cent. or nearly 3 per cent. annually. This is almost exactly the same rate of increase as that calculated for the maritime countries in general; but if we do not reckon the United States, where the increase during that period was exceptionally great—almost 200 per cent. and even more than that, when we reckon the effective tonnage—we find that the average progress was no more than 2.7 per cent. annually.

It has already been mentioned that in the first ten years after 1815, both the Swedish and the Danish mercantile marines decreased almost in the same proportion as the Norwegian and others. After 1826, the development of the mercantile marine of Sweden was somewhat irregular, periods of progress alternating with periods of decline. Thus there was an increase of tonnage between 1826 and 1832, then a decrease until 1837, then again six years of increase, four years of decrease, and lastly four years with considerable increase until 1850. On the whole, between 1831 and 1850, there was an augmentation from 130,357 to 195,138 tons, or about 50 per cent., while the average increase in the above mentioned maritime countries was about 75 per cent. and, with the exception of the United States, about 66 per cent.

Comparing the Swedish and the Norwegian shipping in this period, we find that the Norwegians by far surpassed the Swedes in all ports of northern and western Europe. In the Medi-

¹ Vol. ii. table No. 7.

² See above, p. 341, note 1.

terranean, on the other hand, the Swedish tonnage was larger, except in some of the later years of the period. In the transatlantic navigation the Swedes employed a rather considerable tonnage, principally trading to the United States, to which there was a very large export of iron, and to the Brazils. Still in the last years of this period the Norwegian vessels trading to the United States equalled the Swedish.

The tonnage belonging to Denmark (exclusive of Schleswig-Holstein) increased in the years 1830–1850 from 60,000 to 83,000 tons. This increase, representing about 38 per cent, was, as it will be seen, much less than that of the Swedish and the Norwegian tonnage, which were favored, particularly the Norwegian, by the rapid increase of the timber export, a circumstance of no particular interest to the Danish shipping. The general commerce of Denmark, which had no bulky article for export, was between 1814 and 1828 in a very depressed state, but improved gradually afterwards, especially in the later part of the period, when Copenhagen began to take a more leading position. The above mentioned increase of the Danish tonnage was, as in Sweden, interrupted by some years of decrease, viz. 1834–1836 and 1845. The Danish shipping at that time was considerable in the English ports, about as much as the Norwegian and much more than the Swedish; but it must be remembered that the Danish flag then covered vessels of Schleswig-Holstein. In the transatlantic trade the Danes were also fairly represented, particularly in South America.

The next period, 1850–1879, was the most brilliant in the history of Norwegian shipping. The relaxation and subsequent repeal of the English navigation laws induced the Norwegians to construct and purchase vessels of better quality than those hitherto employed, which for the most part had been only intended for the timber trade between northern and western Europe. They began immediately to take advantage of the wider field now opened for their activity. At the same time, while the development of the export and import trade of Nor-

way gave employment to an increasing tonnage, this increase, although in itself very considerable, was put altogether in the shade by the enormous increase of the Norwegian carrying trade between foreign countries.

The following account gives a summary of this development in average numbers for each quinquennial period from 1836 to 1890.

TONNAGE (IN THOUSANDS OF REGISTER TONS) OF NORWEGIAN VESSELS ENTERED OR CLEARED WITH CARGOES.

Quinquennial Period.	Entered into Norway.	Cleared from Norway.	Cleared from foreign Ports to foreign Ports.
1836-1840	113.4	342.3	109.2
1841-1845	120.1	400.1	150.2
1846-1850	142.9	419.5	247.7
1851-1855	170.8	540.9	387.5
1856-1860	229.6	599.5	673.0
1861-1865	272.3	710.5	1007.4
1866-1870	304.1	870.1	1612.8
1871-1875	423.8	980.1	2452.0
1876-1880	518.9	958.6	3136.3
1881-1885	704.9	1241.1	3399.9
1886-1890	856.7	1391.1	3715.9

Comparing the two quinquennial periods 1846-1850 and 1876-1880—the subsequent years shall be dealt with further on—we find that the tonnage of Norwegian vessels employed in the Norwegian trade increased within that space of 30 years in the proportion of 1:2.6, while that employed in the foreign carrying trade increased in the proportion of 1:12.7.

We will now briefly consider the development of the Norwegian carrying trade in some countries, which have been of most importance to it.

The rise in the Norwegian shipping in Swedish ports between the years 1823 and 1849 has already been stated above. The outgoing carrying trade from this country increased in the following proportion (the figures representing the tonnage of Norwegian vessels cleared with cargoes from Sweden to other countries than Norway, in commercial lasts of 2.1 register tons each):

1838	1844	1851-1855 (average)	1861-1865 (average)	1871-1875 (average)
29,299	41,536	84541	200,300	306,560

The average for 1871–1875 is equal to about 643,800 register tons, against which the subsequent quinquennial period, 1876–1880, shows a diminution, the average being then 603,700 tons.

After 1847, when this carrying trade rose to the exceptional height of 80,982 lasts, there was in the next years a great reduction, owing to the state of the French market, and from that time a gradual increase, but not in the same proportion as before, notwithstanding a great expansion in the Swedish export trade. The percentage of Norwegian tonnage in the total tonnage cleared with cargoes from Sweden fell from 39 in 1847 to 30 in 1856. From that year, however, the Norwegian tonnage employed in this trade increased on a very large scale for a long series of years, until 1872, when it was nearly four times as large as in 1856. The percentage in the general export trade of Sweden reached its highest point (43.5 per cent.) in 1864, when, owing to the Danish-German war, the German navigation in the Baltic ports was essentially reduced. From 1861 to 1872 the tonnage of Norwegian vessels cleared with cargoes from Sweden was larger than that of the Swedish vessels, in 1865 even to the considerable amount of 196,700 register tons, their percentage being 42.4 against 28.1 under Swedish, and 29.5 under other foreign flags. In the timber trade, especially that of the Bothnian ports north of Stockholm, their percentage was still greater.

Since 1872, however, there has been first a standstill and then, particularly after 1883, an actual decrease in the Norwegian shipping in Sweden, while the tonnage of Swedish and other nations has increased very considerably.

These variations are connected with quite characteristic phases in the development of Norwegian shipping in general.

The first effect on this shipping, of the abolition of the English navigation laws, was to induce the shipowners to employ their vessels in the new markets just opened. For that reason they could not continue to develop, with the same energy as before, their trade in the old freight markets, of which Sweden was the most important. But when, owing to the greater competition, those new markets no longer proved so profitable as

formerly, the reflux of the current came back to Sweden, and that so much the more, as the timber export from that country was rapidly increasing. It will be remembered that the Norwegian vessels were particularly adapted for the timber trade. But in later years the steam vessels entered into a competition, growing more and more keen also in this trade, with sailing vessels; with the result that notwithstanding the expansion of the trade itself, the export in Norwegian vessels, which chiefly are sailing, commenced to fall off.

In the Finnish and northern Russian ports the development of the Norwegian carrying trade has been somewhat different, although in some respects similar, the chief article of transport being the same as in Sweden, viz., timber. The tonnage of Norwegian vessels cleared from those ports averaged in the years 1841–1849, 13,000 to 14,000 commercial lasts, and from 1850–1853, 12,700 lasts. In 1854 and 1855 this navigation was practically stopped by the Russian war. In the years 1861–1865 the average rose to 45,200 lasts and in 1871–1875 to 139,800 lasts or 293,600 register tons. In these ports, in contrast with the Swedish, the increase continued also during the following years and that in a very high degree, the average for the quinquennium 1876–1880 being 412,400 tons, but the maximum point, 497,000 tons, was reached in 1877, since which year there has been, on the whole, a falling off.

Great Britain and Ireland have, from an early period, been of great importance for the Norwegian carrying trade, which particularly in those countries has increased on a large scale. The tonnage of Norwegian vessels entered into Great Britain with cargoes from other countries than Norway has increased in the following proportion: in 1837–1838 the arrivals amounted to 13,700 lasts annually, chiefly or exclusively from Sweden; in 1849 they numbered 30,558 lasts; in 1850, 49,866 lasts; in 1851–1855 they averaged 93,600 lasts; in 1861–1865, 210,800 lasts; in 1871–1875, 478,200 lasts or 1,004,000 tons; in 1876–1880, 1,197,300 tons. The outgoing trade increased also very much, viz., from only 1,360 lasts in the years 1837–1838 to 18,-

400 lasts in 1849; 44,700 lasts in 1851–1855 (on the average); 107,600 lasts in 1861–1865; 260,000 lasts or 546,000 tons in 1871–1875 and 529,200 tons in 1876–1880.

Thus, both inwards and outwards, an extraordinarily large increase is to be observed until the years 1871–1875, and then a stagnation of which the cause was partly the general slackening of commerce during the latter part of the decade, partly the increase of steam navigation.

In France already before 1850 the carrying trade of the Norwegian vessels was rather large; thus in the years 1844–1846 there arrived from foreign countries on an average 24,800 lasts or nearly the same tonnage as in Great Britain; but while the Norwegian trade in the last named country showed an extraordinary development after 1850, there was at the same time a decrease in the French trade. Since 1856, however, this trade also has increased in a high degree, numbering in the quinquennial period 1871–1875, 125,500 lasts or about 263,500 tons, and in the next quinquennium even 440,700 tons on the average.

In Holland and Belgium there has been about the same development of the Norwegian carrying trade, although in a somewhat smaller proportion than in France; the average for the years 1876–1880 being 184,000 tons for Holland and 109,000 tons for Belgium. The carrying trade in the British colonies in North America deserves special mention. This trade was first opened in 1850 with a tonnage of 7,400 lasts cleared for England and other countries; after having been kept about this level during the next quinquennial period (averaging 8,300 lasts) there was a large expansion in the following years, the average for the period 1861–1865 being 45,300 lasts, increasing to 109,000 lasts or 229,000 tons in the years 1871–1875, and 288,000 tons in the next quinquennial period.

Large as this increase was, it has been greatly surpassed by the development of the carrying trade to the United States. This trade was inconsiderable before the last years of the decade 1861–1870. The tonnage of Norwegian vessels entered with cargoes from foreign countries except Norway to the

Atlantic ports of the United States, averaged in the two quinquennial periods 1851-1855 and 1861-1865, 4,900 and 6,900 lasts respectively, and the outgoing tonnage in the same periods, 2,960 and 13,300 lasts. But in the years 1871-1875 the average tonnage suddenly rose to 76,350 lasts inwards and 170,000 lasts outwards, corresponding to about 160,000 and 357,000 tons. And these large numbers continued to increase rapidly in the following years, the average for the period 1876-1880 being 207,000 tons inwards and 853,700 tons outwards. The maximum was reached for the ingoing trade in 1880, with 420,600 tons, for the outgoing trade in 1879 with 1,066,900 tons and, for these trades together, in 1880 with an aggregate tonnage of 1,398,800 tons.

The general navigation of the United States during the decade 1871-1880 nearly doubled, principally owing to a large expansion of the export of wheat and other cereals, petroleum and lumber. For these articles Norwegian vessels were well suited, and this circumstance partly explains the fact that the Norwegian shipping at the period took such a large share in the increase. But there is another reason, which is not without interest. The Norwegian sailing vessels, being by the competition of the steamers gradually driven out of the shorter European trades, or, rather, finding there no more room for expansion, sought a compensation in the transatlantic trade, chiefly that of United States.

We have now mentioned the most important branches of the Norwegian carrying trade in this period, but apart from the countries already named, several others were of more or less importance.

The principal articles of transport were first and foremost, lumber and then cereals, petroleum, coal, cotton and wool, sugar and coffee, ice, etc., thus, as it will be seen, principally bulky articles, of which, in the years 1874-1876, nearly a half of all freights was made by the transport of lumber.

As regards the increase of the Norwegian mercantile marine during this period, we extract the following figures from the

second volume of the international shipping statistics, where the tonnage of sailing vessels and of steam vessels in almost all maritime countries is given for each year between 1850 and 1880.

	Tonnage of Sailing Vessels.	Tonnage of Steam Vessels.	Total Tonnage in Register Tons.	Total Effective Tonnage (multi- plying the steam tonnage by 3.)
I January 1850	288,213	ca. 420 ^x	288,633	289,473
" 1860	547,095	ca. 4,730 ^x	551,825	561,285
" 1870	948,432	11,939	960,371	984,249
" 1880	1,455,888	54,781	1,510,669	1,620,231

The average progress of the effective tonnage for the whole period was 5.91 per cent. annually, while the average progress for the total effective tonnage of the world was 3.68 per cent. Dividing the period into the three decades, 1850–1860, 1860–1870 and 1870–1880, we find the following annual rates of progress for the Norwegian mercantile marine: 6.85, 5.78 and 5.11 per cent. respectively. During the eight years 1850–1857 the average progress was 8 per cent. annually; then followed five years with smaller progress, the annual rate being, however, 2.6 per cent. After those years came a new period of a great and continuous progress extending over thirteen years, viz., from 1864 to 1876, with an increase of 7 per cent. annually. From 1877, however, the progress was slow and in 1880, the last year of the period, there was for the first time since 1825 a decrease.

We shall now give some information about the development of the Swedish and of the Danish shipping between 1850 and 1880, when the tonnage of the respective countries was as follows:

SWEDEN.				
	Tonnage of Sailing Vessels.	Tonnage of Steam Vessels.	Total Tonnage in Register Tons.	Total Effective Tonnage.
January 1, 1850,	192,940	ca. 3,500 ^x	196,440	203,440
January 1, 1860,	277,560	ca 11,500 ^x	289,060	312,060
January 1, 1870,	317,981	20,720	338,701	380,141
January 1, 1880,	447,144	93,698	540,892	728,238

DENMARK.				
	Tonnage of Sailing Vessels.	Tonnage of Steam Vessels.	Total Tonnage in Register Tons.	Total Effective Tonnage.
January 1, 1850,	89,655	962	90,617	92,541
January 1, 1860,	143,944	4,479	148,423	157,381
April 1, 1870,	168,193	11,707	179,900	203,314
January 1, 1880,	203,159	54,654	257,813	367,121

^x Estimated.

The progress of the mercantile marine was both in Sweden and in Denmark somewhat greater than the average mean progress calculated for all maritime countries together, but less than in Norway, the average rate of increase being 4.34 per cent. in Sweden and 4.70 per cent in Denmark, reckoned from the effective tonnage. During the last decade of the period, however, the Swedish and the Danish marines increased faster than the Norwegian, their respective annual rates being 6.72, 6.09 and 5.91 per cent. The difference in the rates was exclusively due to the greater importance of the steam tonnage in Sweden and Denmark. In fact, the steam tonnage in each of the three Scandinavian countries increased in those years at about the same rate — a very high rate, viz. between 16 and 17 per cent. annually,— while the increase of the sailing tonnage was 4.38 per cent. in Norway, 3.47 per cent. in Sweden and 1.91 per cent in Denmark. Thus, notwithstanding a comparatively high rate of increase in each class of vessels, considered separately, the whole result was less favorable for the Norwegian marine because it contained an overwhelming proportion of the less increasing sailing tonnage.

The mercantile marine of Sweden showed an exceptionally large increase in the six years, 1869-1875, when it nearly doubled, the effective tonnage being calculated at 343,662 tons at the beginning of 1869, and at 683,029 tons at the beginning of 1875. In one year, 1873, Sweden increased its tonnage by 105,287 effective tons, or more than 21 per cent; and the next year witnessed a further increase of 79,000 effective tons. In the other years of the period 1850-1878, the progress was, however, rather slight, and in 1879 there was, as in Norway, a decrease.

In Denmark we observe a fair increase of the tonnage in the years 1850-1860, then a decrease until 1865, and from that year until the end of the period in most years a good increase, particularly in the years 1871-1876.

The last period extending from 1880 to the present day, has for the Norwegian shipping, during the most part of it, been a period of adversities, struggles and slow progress.

The overwhelming competition of the steam vessels had never made itself so severely felt as since 1880, and perhaps in no country so much as in Norway, where the shipping until then had been almost entirely based on sailing vessels. Particularly in the first half of the decade 1880-1890, when the steam tonnage made rapid progress everywhere, whereas the sailing tonnage almost invariably diminished, all countries with comparatively small steam tonnage were greatly distanced by the countries where steam tonnage was already of importance. From this general rule Norway made no exception, although its steam tonnage increased considerably and its sailing tonnage practically was kept up to the same level as before.

Lately, however, the general rise of freights in 1888 and in 1889 has given a new and considerable impetus to the Norwegian shipping, as will be seen from the following statement showing the Norwegian tonnage statistics since 1880, and where, for the sake of comparison, are subjoined the corresponding figures for Sweden and Denmark :

NORWAY.				
	Tonnage of Sailing Vessels.	Tonnage of Steam Vessels.	Total Tonnage, in Register Tons.	Total Effective Tonnage.
January 1, 1880,	1,455,900	54,800	1,510,700	1,620,200
January 1, 1885,	1,477,800	105,600	1,583,400	1,794,700
January 1, 1888,	1,381,800	121,800	1,503,600	1,747,200
January 1, 1890,	1,443,300	168,100	1,611,400	1,947,600
January 1, 1892,	1,500,100	238,500	1,738,600	2,215,600

SWEDEN.				
(Except Lake and other Inland Ports.)				
January 1, 1880,	419,100	84,200	503,300	671,700
January 1, 1885,	397,400	96,800	494,200	687,800
January 1, 1888,	356,700	109,800	466,500	686,100
January 1, 1890,	349,500	120,500	470,000	711,000
January 1, 1892,	352,600	136,000	488,600	760,600

DENMARK.				
January 1, 1880,	203,200	54,700	257,900	367,300
January 1, 1885,	181,800	95,200	277,000	467,400
January 1, 1888,	172,100	94,400	266,500	455,300
January 1, 1890,	177,400	108,800	286,200	503,800
January 1, 1892,	187,800	122,500	310,300	555,300

The average annual progress from 1880 to 1892, calculated according to the effective tonnage, was in Norway 2.64 per cent.,

in Sweden 1.04 per cent., and in Denmark 3.50 per cent., but considering that the progress during the last two years was exceptionally great, it will perhaps be better to take the average rate in the decade 1880-1890 as a more nearly correct expression of the mean progress in our times, and then the above stated averages must be reduced to 1.86, 0.57 and 3.21 per cent. respectively. The corresponding rate for the mercantile marine in all countries of the world is calculated to 3.08 per cent.

As for Norway, we shall have to go back so far as to the period before 1830 in order to find a rate of progress lower than that which has occurred since 1880, and the same may be said of Sweden, if we consider periods consisting of ten years or more. In the case of Denmark, on the other hand, the progress in the years 1880-1890 was surpassed only by that in the decades 1870-1880 and 1850-1860. The difference in this respect between Denmark and Norway is explained by the fact that the steam tonnage was in 1880 45 per cent. of the effective tonnage in Denmark, but only 10 per cent. in Norway, where the progress of shipping has been suffering, and is still laboring under the dead weight of a large tonnage of sailing vessels, which it takes time to reduce to a proportion more adequate to the present conditions of seafaring. Still, as it will be seen, the steam tonnage of Norway has made rapid progress in later years and begins to tell in its mercantile marine, being in 1892 more than 32 per cent. of its total effective tonnage. It is chiefly Bergen which has contributed to this increase.

If in Sweden the progress of the mercantile marine of late years has been still less than in Norway, notwithstanding a higher proportion of steam tonnage, the cause may perhaps, to a great extent, be attributed to over-speculation in steam vessels in the years 1870-1874, during which their tonnage was increased from 20,720 to 90,565 registered tons (including the inland ports). Many of the new steam vessels constructed or purchased were built of wood and gave bad economical results. After that experience the interest for investing capital in steam tonnage died away, and there was, for some years, even a

decrease, while in later years again there has been some progress. On the other hand, the sailing tonnage has, on the whole, diminished a little.

Turning now to the different branches of the Norwegian carrying trade, we find that the retrograde movement observed already in the later part of the foregoing period in the trade with Sweden, Finland and the northern parts of Russia, has continued since 1880 in a marked degree. The tonnage of Norwegian vessels freighted from Sweden to foreign countries amounting in 1880 to 594,000 tons, and in 1882 even to 715,300 (the highest amount ever reached) has fallen off to 396,000 tons in 1890, and the percentage of Norwegian vessels in the outgoing cargoes of Sweden has gone back from 21.5 per cent. in 1880, to 10.9 per cent. ten years after, while, as we have stated above, it was 42 to 43 per cent. in the years 1864 and 1865. The steam tonnage employed in the Baltic timber trade, chiefly under British, Swedish and German flags, has been continually on the increase, whereas the Norwegians hitherto have not employed much steam tonnage in that trade.

In the Baltic trade of Russia and Finland, the Norwegian shipping has diminished in a still larger proportion, the tonnage of outgoing cargoes for foreign countries being in 1890 only 166,800 tons against 461,200 tons in 1880.

In the important timber trade from the Dominion of Canada there has been, however, some progress; the Norwegian outgoing tonnage numbering 468,100 tons in 1890 as against 351,600 tons in 1880, and 288,200 tons on the average in the foregoing quinquennium.

As to the shipping to the United States there has been, on the whole, a diminution in the Norwegian trade. The competition of steamers has driven the Norwegian sailing vessels almost completely out of the corn trade from the Atlantic ports and greatly reduced their share in the petroleum trade. On the other hand, the tonnage employed in the export of timber from the gulf ports has increased, while Norwegian steamers have found employment in different ways, among others in the fruit trade from

West Indian and Central American ports to New York and other ports in the States. On the whole, however, the outgoing Norwegian tonnage has diminished as much as from 978,200 tons in 1880, to 585,500 tons in 1890.

For this and other losses the Norwegian shipping has principally sought compensation in outgoing freights from Great Britain, particularly coal freights for Brazil, Argentina and other distant countries, while the greatly increased import to Argentina has also given occupation to many timber carrying vessels freighted from Canada and the United States. The amount of Norwegian tonnage employed in the outgoing carrying trade from Great Britain and Ireland has risen from an average of 529,200 tons in the years 1876-1880, and 704,000 tons in 1880 to 1,176,300 tons in 1890, while the inward going trade to Brazil and Argentina has increased still more, viz., in the former country from 47,200 tons in 1880 to 258,700 tons in 1890, and in Argentina from 16,500 tons in 1880 to 434,600 tons in 1889 and 359,200 tons in 1890.

Space forbids entering into more details, but in concluding this section it will perhaps be of some interest to give account of the distribution of the Norwegian as well as of the Swedish and Danish shipping in the different parts of the world. Information on this subject has been given for most of the seafaring nations in the fourth part of the international shipping statistics, and it may, in this respect, particularly be referred to No. III of the table annexed to the introduction to that volume, showing the share of each nation in the navigation of each country in the year 1888. It is true that the figures given in that table represent only the entries, no distinction being made between those with cargoes and those in ballast. But, although the information is consequently incomplete, yet it may be used as a rough approximation of the subject.

Beginning with the Scandinavian shipping in each of their own countries, we find the Norwegian tonnage representing 63 per cent., the Danish 51.4 per cent. but the Swedish only 35 per cent. of the total tonnage in Norway, Denmark and Sweden

respectively. In the navigation of Norway the Danish counted 8.9 per cent. and the Swedish 7.1 per cent., while in the navigation of Sweden, the Danish flag counted 20.7 per cent. and the Norwegian 11.5 per cent. Yet, the Danish vessels being for a very large part engaged in quite short voyages, as in the crossing of the Sound, and the Norwegian vessels almost entirely in longer voyages, the real proportion between the flags would stand otherwise if the length of voyages is taken into consideration. In the navigation of Denmark the Swedish flag represented 13.9 per cent., the Norwegian only 4.9 per cent. The total Scandinavian tonnage was thus in each of the Scandinavian countries represented as follows: in Norway by 79 per cent., in Sweden by 67 per cent. and in Denmark by 70 per cent,

In the navigation of Russia, the Danes take a somewhat more prominent position than the Norwegians and the Swedes, particularly in the Baltic trade. Their percentage was 5.7, whereas that of the Norwegians and of the Swedes was 4.3 and 3.4 respectively, making a total of 13.4 percent. In Finland their aggregate percentage was 16, almost equally divided between each of these three nations. About the same proportion is found as to Scandinavian navigation in Germany, where the repartition, however, is somewhat different, viz. 6.3 per cent. under the Danish flag, 5.6 per cent. under the Swedish and 4 per cent. under the Norwegian flag, under which, however, the longest voyages are made.

In western Europe the share taken by the Scandinavian flags is on the whole less considerable. In England, however, they represent nearly 10 per cent. of the tonnage, of which 5.6 per cent. falls upon the Norwegian flag alone, which here takes the lead among all foreign flags. In the Netherlands and in Belgium the percentage of the Scandinavian vessels together is only 5.6 and 7.75, in France, Portugal and Spain, 6.6, 5.5 and 4.1 per cent. respectively.

In the Mediterranean countries their proportion is on the whole trifling, with the exception of Spain; and so is also the case in the most part of Africa, Asia and Australia. Still each

of these flags, particularly the Norwegian, is to be seen almost everywhere.

In the United States of America and in some other American countries, as in Canada, Argentina and Uruguay, the Norwegian flag covers from 4.5 to 6 per cent. of the navigation, while the Swedish and the Danish in this continent seldom exceed one-half per cent.

The following statement gives the totals and the percentages of the Scandinavian shipping in each continent;

TONNAGE IN THOUSANDS OF REGISTER TONS.

	Norwegian.	Swedish.	Danish.	All Nations.
Europe - -	6,581	4,573	5,553	122,087
America - -	1,431	148	87	37,544
Africa - -	78	33	35	11,656
Asia - -	187	6	86	20,643
Australia - -	87	30	5	8,137
TOTAL.	8,364	4,790	5,766	200,067

PERCENTAGE IN THE NAVIGATION OF ALL NATIONS.

Europe - -	5.39	3.75	4.55	100
America - -	3.81	0.39	0.23	100
Africa - -	0.67	0.28	0.30	100
Asia - -	0.90	0.03	0.42	100
Australia - -	1.07	0.37	0.06	100
TOTAL.	4.18	2.39	2.88	100

These figures give a rough idea of the proportion in which the Norwegian, the Swedish and the Danish flags are represented; but there are several circumstances, which should be borne in mind. The statistics forming the basis of the calculations are not complete in so far as they do not comprehend the navigation of all countries, an observation which particularly applies to the non-European Continents. Then, it must be observed that the importance of the shipping does not depend on the tonnage alone, but on the character of the navigation, which chiefly depends on the length of the voyages. In that respect the Swedish, and still more the Danish vessels, are, as we for some particular cases have already observed, principally employed in short voyages; the Norwegian vessels, on the other hand, to a great extent in the

ocean trade. For this reason the proportions calculated above for the different flags do not represent either in the navigation of Europe or in the total navigation of the World, their real importance. In the case of the Norwegian and the Swedish shipping there is, however, an excellent means of testing the bearing of this circumstance, as the amount of freights in each trade is officially stated. The total amount of freights in 1890 of the Swedish vessels in their carrying trade as well as in their trade between Sweden and foreign countries was 37.4 millions of kroner, while the amount of freights earned by the Norwegian vessels, calculated in the same manner, was 109.7 millions. This gives the proportion of 1:2.9., whereas the figures of the table above give the proportion of 1:1.75. Still that table, as well as the more detailed statistics, of which it gives a summary, is not without interest, when used properly.

In the absence of reliable statistics of the amount of freights earned under the different flags, one of the best means of ascertaining their relative importance in the general shipping trade is to calculate their total effective carrying power, each ton of steam vessels being computed at the usual rate of 3 to 1. We subjoin, therefore, in this connection, the following table indicating for the Scandinavian and the most important of the other nations their real and effective tonnage compared with the population.

	Popula- tion.	Steam Tonnage.	Sailing Tonnage.	Total Tonnage.	Effective Carrying Power.
Norway, January 1, 1892.	2,014,000	238,500	1,500,100	1,738,600	2,215,600
Sweden	4,803,000	136,000	352,600	488,000	760,600
Denmark	2,202,000	122,500	187,800	310,300	555,300
Great Britain and Ireland	38,040,000	5,944,100	2,972,100	8,916,200	20,804,400
Germany	49,960,000	764,700	704,300	1,469,000	2,998,400
France	38,343,000	631,500	359,600	991,100	2,254,100
Spain	18,000,000	293,300	188,800	482,100	1,068,700
Italy	30,347,000	223,900	625,800	849,700	1,297,500
United States, July 1, 1891.	64,500,000	794,600 ²	1,772,700 ²	2,567,300 ²	4,156,500 ²

Comparing the effective carrying power per 1000 inhabitants, we find that the above mentioned countries rank, as follows :

² Exclusive of the Lake and other Inland ports.

(1) Norway 1100 tons; (2) Great Britain and Ireland 547; (3) Denmark 252; (4) Sweden 158; (5) United States 64 (but including the inland navigation, 109); (6) Germany 60; (7) France 59; (8) Spain 59; (9) Italy 43.

Among other countries we may mention the British Possessions in North America with about 200 effective tons per 1000 inhabitants, British Australia with 160, Greece with 138 and Finland with 97, these figures referring to the year 1890.

Having thus followed the history of the Scandinavian shipping up to the present time, we shall now, before finishing, glance at the principal causes that have influenced its development.

Norway and the two other Scandinavian countries are in possession of several of the physical conditions favorable to an extensive navigation. They have extensive coast lines and a multitude of good harbors, particularly Norway, where splendid harbors are to be found almost everywhere along the coast. The country is in many parts so intersected by fjords and inlets, that the sea is the most convenient and often the only practicable way of communication between the inhabitants. The people, therefore, to a great extent live on the water, to which the inhabitants are also attracted by the fisheries. The climate, too, is favorable for seafaring trade, which requires hardy men, accustomed to rough weather. The geographical situation between the Baltic and the North Sea, in the neighborhood of great commercial centers, ought also to be borne in mind. A drawback for Sweden is the long and intensely cold winter, which, particularly in its northern harbors, stops the navigation during a great part of the year, while all the Norwegian and Danish harbors are, practically speaking, open throughout the whole year, except in unusual cases.

There is, however, plenty of evidence to show that physical circumstances, howsoever favorable, are not in themselves able to promote shipping, where the commercial conditions are wanting. Norway itself affords one of the best proofs of this. Its very extensive western and northern coasts, where all those

physical conditions are abundantly at hand, are still very poor in shipping, except Bergen and a few other places. But it is a very different thing, where the physical and the commercial conditions both are in combination. This is precisely the case with the Scandinavian countries, which on the whole have had, and still have, an extensive export and import trade. In this respect Norway and Sweden, especially the latter, have a great advantage in their large export of timber and other bulky articles, such as ice, mineral ore, iron, etc., which require a great space in proportion to their value. The import, too, of these countries is rather considerable. Denmark has not the advantage of a bulky export; but this is compensated, to a certain extent, by an extensive trade, which is carried on particularly by Copenhagen and is favored by the splendid situation of that port.

It may be objected, that there are countries, where both the physical and commercial conditions are abundantly at hand, but which still do not possess any great mercantile marine, or, at least, not so great as could be expected from their large maritime commerce. The explanation of this fact is, in most cases, that the interests and inclinations of the inhabitants may turn in other directions rather than to the sea. It may be, and is often the case, that agriculture, industry and commerce are found more lucrative or, at all events, more attractive than the sailor's hard and toilsome life.

In the case of Norway, on the other hand, it should be remembered that the country is comparatively little adapted for agriculture, that also many of the other trades have hitherto yielded but a small remuneration, and that the field for enterprise is, on the whole, rather limited. No wonder that the Norwegians with preference turn to the sea, where they have such a large field for their activity, extending, as it does, over the whole world.

Thus, as the nature of their country makes the Norwegians familiar with the sea, they are also economically attracted to the seafaring trade. And, even socially, the shipping has for them a great attraction.

The wider horizon, the richer and more varied life abroad, the wonders of art and industry — contrasted with the monotony of life, which often prevails in many small communities on the sea - coast — how all these must attract young lads grown up in those places, who from their earliest childhood have played on the beach and on the water ; whenever they could, sailing in boats or climbing up the rigging of the ships or listening to stories told by their seafaring elder brothers or relatives. How can these young viking lads but long for the time when they, too, are permitted to cross the sea into the wide, wide world ? Under such circumstances it is not astonishing that in many places in Norway, chiefly along its southern coast, the great majority of the young men choose a seafaring life.

One of the causes which have favored the development of the Scandinavian shipping, is the good supply of ship-building materials, which the forests of Norway and Sweden have afforded. In later years, however, when iron and steel are mostly used in the construction of ships, the supply of wood is of less importance. Sweden has iron of a very good quality, but it is not so cheap as in England. Norway must buy nearly all the iron and steel it uses ; but gets it cheap, because the homeward freight is low and there is no import duty on these materials.

The ship-building industry has formerly been of great importance, particularly in Norway, although it has never been sufficient to meet the demand for tonnage. The maximum was reached in 1875, when 73,564 tons, almost exclusively sailing vessels, were constructed. During the years 1873-1879, 1880-1885, and 1886-1890, the construction averaged 49,000, 21,300 and 12,900 tons yearly, whereof in the two last named periods between 4,000 and 5,000 tons were steam vessels. In Sweden and Denmark the construction of steam vessels has in later years been somewhat less than in Norway and that of sailing vessels very inconsiderable.

Norway is in most years a large buyer of tonnage from abroad. During the quinquennial period 1886-1890 it bought on the average 78,364 tons of sailing vessels and 16,095 tons of

steam vessels yearly, including the tonnage of new vessels constructed on British and other wharfs for Norwegian account. Formerly the vessels purchased from abroad were subject to an import duty amounting to 8 *specie-daler* per last (about 4 dollars per ton); this duty was lessened in 1851 and abolished in 1857. In the same year the purchase of foreign vessels was made duty free in Sweden, where, however, in 1888 a duty of 10 per cent. ad valorem was imposed. In Denmark there has been for a long series of years a duty of 3 per cent. In Norway it is generally considered as a great advantage, not to say a necessity, for our shipping, that there is a free admission of foreign built vessels. The rapid development of our marine would have been impossible, if we had been limited to our own shipbuilding industry. There have been, however, among the vessels purchased from abroad not a few second-class ships, which, if they have yielded good profits, when freights were high, have on the other hand in many cases given bad results in ordinary years, not to speak of the years of depression.

The purchases of Sweden and of Denmark have been, on the whole, inconsiderable.

The most important element in the navigation is, however the manning of the ships, and it is beyond doubt that the great progress which the shipping of Norway, and also that of the two other Scandinavian countries has made, was above all due to the character of their seamen.

In later years, when steam navigation has taken the lead, it would perhaps seem as if the profits earned by this trade were less dependent on the seamanship of the crew than on the construction of the vessels and the managing of the shipowner's business. The conditions may so far have changed somewhat with the growing preponderance of steam.

But, under all circumstances, the physical, intellectual and moral standard of the seamen, combined with the skill of the constructors and the intelligence of the shipowners, will continue to be the fundamental condition for a prosperous development of the shipping, as far as depends on men. A. N. KIÆR.